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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
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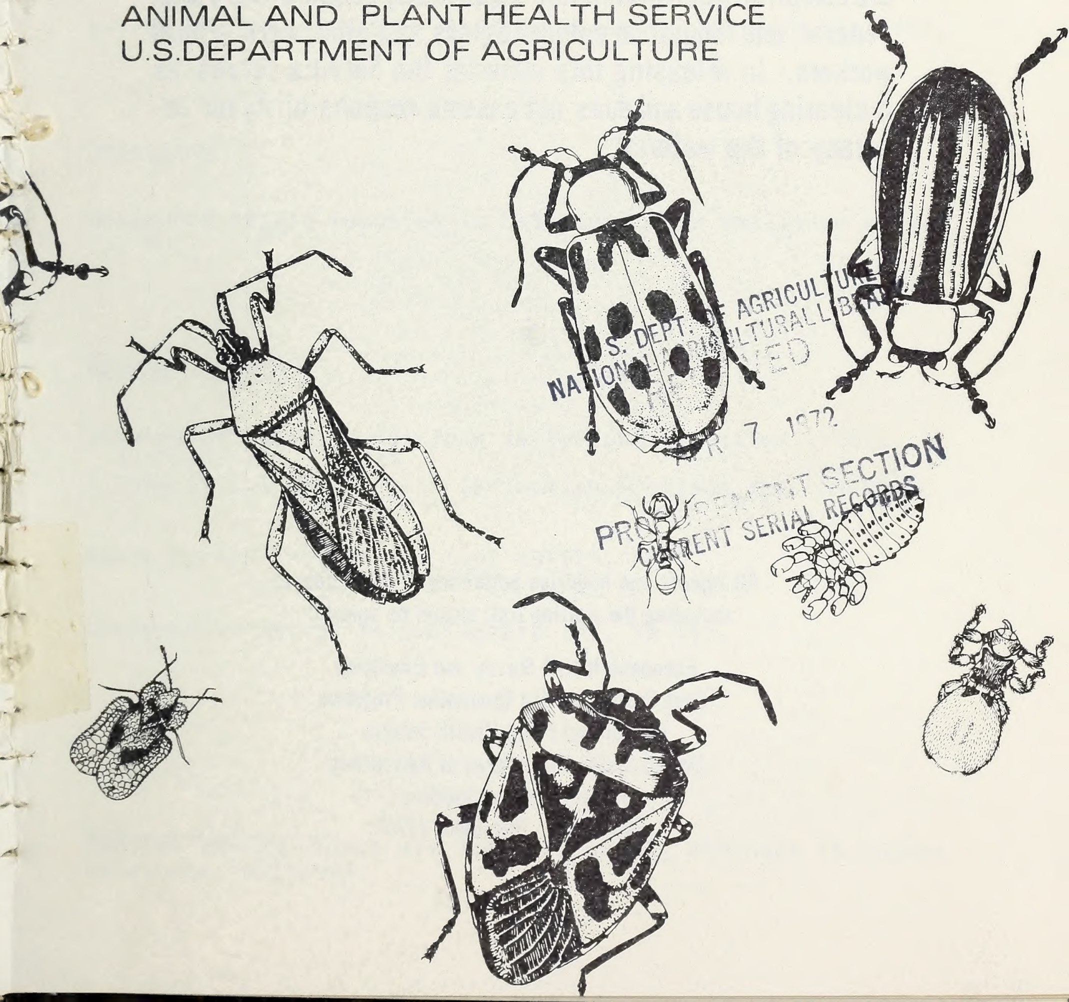

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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey and Detection
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Volume 22 February 25, 1972 Number 8

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM larvae appearing in small grains in Texas. (p. 59).

ALFALFA WEEVIL larvae still heavy on alfalfa in limited area of Texas. (p. 59).

Larvae of NOCTUID MOTHS heavy on celery in Florida. (p. 60).

Detection

HOLLYHOCK WEEVIL reported in Oklahoma for a new State record. (p. 60).

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  Introduction (p. 63).
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WEATHER OF THE WEEK ENDING FEBRUARY 21

Reprinted from Weekly Weather and Crop Bulletin supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: One of the most severe winter storms in recent years caused much distress over the eastern third of the Nation.

PRECIPITATION: A low, which was centered over the Northeast early in the week and which had brought some miserable weather the previous weekend, weakened and moved out in the Atlantic. Another low which caused rain and scattered thundershowers in the Southeast Wednesday, intensified and brought soaking rains to the Middle Atlantic Coastal States and snow in the southern Appalachians Thursday forenoon, and from West Virginia to eastern Pennsylvania Thursday afternoon. Three inches of snow fell at Washington, D.C. and Baltimore, Maryland, Thursday before weakening and moving over the Atlantic Ocean. A high brought a brief period of sunny mild weather to mid-America early in the week. Meanwhile, a storm off the coast of British Columbia moved inland, crossed British Columbia and Southern Alberta, and by midnight Wednesday was centered over western North Dakota. Rain fell along the Pacific coast which was already too wet and snow fell in the Cascades, Northern Rocky Mountains, and the northern Great Plains. Strong gusty winds blew along the Pacific coast and other parts of the Northwest. Gusts reached 62 m.p.h. at Astoria, Oregon, and varied from 75 to 90 m.p.h. at Rattlesnake Ridge in eastern Washington. Early Thursday, a front trailed from the storm center southward across the Great Plains. The front marched eastward at about 25 m.p.h. About Friday noon, the front extended from the Great Lakes to South Carolina. A wave developed in South Carolina, intensified, and moved northward along the coast and became one of the worst storms in recent years. It increased in severity as it moved northward. The giant storm brought miserable weather to much of the eastern third of the Nation. Large waves pounded the coast. One to 2 feet of snow fell in the northern and central Appalachians. Blizzards raged in many areas. Winds gusted 50 to 60 m.p.h. or more. Block Island, Rhode Island,

For continuation of weather of the week and 30-day forecast see page 62.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - TEXAS - Spotted infestations reported on small grains in Bastrop and Bell Counties during past 14 days. (Cole, Decker).

GREENBUG (*Schizaphis graminum*) - NEW MEXICO - Light to medium, ranged 2-50 per linear foot, in wheat in Curry and Roosevelt Counties. (Mathews). TEXAS - Light on wheat, rye, barley, triticale, and oats in Wilbarger, Motley, and Clay Counties. Ranged 0-15 per foot; heaviest infestations in wheat and rye in Motley County. Infestations spotted but heavy on small grains in Knox County. (Boring, Pallmeyer). OKLAHOMA - Ranged 15-20 per linear foot of wheat in 4 fields in Cotton and Tillman Counties. (Okla. Coop. Sur.). ARKANSAS - Survey still negative in northwest areas. (Boyer).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - ARIZONA - Counts of 450 per 100 sweeps of alfalfa in Maricopa County. (Ariz. Coop. Sur.). NEW MEXICO - Light on alfalfa in Curry and Roosevelt Counties. (Mathews).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (*Ostrinia nubilalis*) - NORTH CAROLINA - Larvae averaged 30 per 100 stalks in fields with standing stalks (25 fields sampled) in Wayne, Sampson, Johnston, and Wilson Counties. Negative in 10 fields with satisfactory stalk destruction. (Hunt).

FORAGE LEGUMES

ALFALFA WEEVIL (*Hypera postica*) - TEXAS - Larvae ranged 100-300 per square foot in fields examined in Burleson County and eggs up to 160 per square foot. (Latham). OKLAHOMA - Larvae ranged 1-6 per terminal in 68 percent of terminals in alfalfa in Stephens County and 1-3 per terminal in 48 percent of terminals in Grady County. Most larvae newly hatched. Adult counts light in these areas and some mating noted. Empty cocoons and occasional pupa found in Stephens County. Eggs averaged 164 per square foot in one field at Chickasha, Grady County. (Okla. Coop. Sur.). MISSOURI - Comparative egg counts from central area for November and December show increase in 4 of 5 counties sampled. (Huggans). ARKANSAS - Survey still negative in northwest and east-central areas. (Boyer, Sterling).

BROWN WHEAT MITE (*Petrobia latens*) - NEW MEXICO - Isolated medium to heavy infestations on alfalfa in Chaves County. Some controls applied. (N.M. Coop. Rpt.).

PEA APHID (*Acyrthosiphon pisum*) - OKLAHOMA - Averaged 30 per square foot in alfalfa in Grady County and 5 per square foot in Stephens County. (Okla. Coop. Sur.). NEW MEXICO - Generally light on alfalfa in Curry and Roosevelt Counties. (Mathews).

POTATOES, TOMATOES, PEPPERS

CABBAGE LOOPER (*Trichoplusia ni*) - FLORIDA - This species and *Pseudoplusia includens* (soybean looper) light on commercial bell peppers in Delray Beach area, Palm Beach County; heavy on nightshade around borders of fields. (Genung).

GENERAL VEGETABLES

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Mostly this species and Pseudoplusia includens (soybean looper) heavy on 80 acres of inadequately treated commercial celery at Belle Glade, Palm Beach County. (Genung).

DECIDUOUS FRUITS AND NUTS

EUROPEAN RED MITE (Panonychus ulmi) - KENTUCKY - Averaged 4 eggs per twig tip (40 mm long) sampled from 5 acres of apples in Jessamine County. (Barnett).

SAN JOSE SCALE (Quadraspidiotus perniciosus) - CALIFORNIA - Moderate on prune trees at Gridley, Butte County. Increasing. (Cal. Coop. Rpt.).

CITRUS

COTTONYCUSHION SCALE (Icerya purchasi) - CALIFORNIA - Counts of 50 per twig on tangerine trees locally at La Mesa, San Diego County. Infestation parasitized by Cryptochaetum iceryae (a cryptochetid fly). (Cal. Coop. Rpt.).

LONGTAILED MEALYBUG (Pseudococcus longispinus) - CALIFORNIA - Adults 2 per leaf on citrus at Leucadia, San Diego County. (Cal. Coop. Rpt.).

ORNAMENTALS

HOLLYHOCK WEEVIL (Apion longirostre) - OKLAHOMA - Specimens collected from hollyhock seed at Locust Grove, Mayes County, on July 31, 1971 by D.C. Arnold. Determined by R.E. Warner. This is a new State record. (Okla. Coop. Sur.).

A GEOMETRID MOTH - ALABAMA - Unspecified larvae ranged 1-5 per camellia plant at Auburn, Lee County during December and January. Feeding on blossoms and buds. No determination made by specialist or were comparative specimens available. Similar feeding noted prior to this occurrence, usually March or later. (McQueen).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - No cases reported in U.S. February 13-19. Total of 156 laboratory-confirmed cases reported in portion of Barrier Zone in Republic of Mexico as follows: Sonora 58, Chihuahua 2, Coahuila 7, Nuevo Leon 10, Tamaulipas 79. Total of 27 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screwworm flies released: Texas 7,678,000; Mexico 95,094,000. (Anim. Health).

STORED PRODUCTS

TOBACCO MOTH (Ephestia elutella) - NORTH CAROLINA - About 31 percent of growers storing tobacco in 1971 had damaging infestations. Total pounds infested of 1970 crop plus 1971 crop ranged from 0 in Scotland County to 6.5 million pounds in Wilson County. Wilson County growers had heavy damage prior to winter storage. (Hunt).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - TEXAS - This species and other Solenopsis spp. increased in most south-central counties. Heavy activity in Austin County near Bellville. Also heavy in Fort Bend and Brazoria Counties. (Green, Cole).

HAWAII INSECT REPORT

General Vegetables - GREEN PEACH APHID (Myzus persicae) heavy, as many as 50+ adults and nymphs per square inch on older leaves in 0.1 acre of eggplant at Pearl City, Oahu. About 2 percent of aphids mummified. Parasitism 100 percent by Opius spp. (braconids) of BEAN FLY (Melanagromyza phaseoli) from infested snap bean and cowpea material collected from various areas on Kauai during January. (Sugawa, Kawamura).

Fruits and Nuts - COCONUT SCALE (Aspidiotus destructor) light in small planting of banana at Pearl City, Oahu. About 15 percent of leaves (mostly older) with moderate colonies, infested 25-30 percent of lower leaf surfaces. Nymphs and adults of lady beetles, Telsimia nitida and Lindorus lophanthae moderate amid colonies. Adults of a SWALLOWTAIL BUTTERFLY (Papilio xuthus) noted from windward Oahu during first two weeks of February. (Kawamura).

Beneficial Insects - A CERAMBYCID LANTANA (Plagiohammus spinipennis) increased at Panaewa Forest, Hawaii; girdled lantana stems noted. As many as 14 larvae from 3.5 foot long stem. P. spinipennis introduced from Mexico in 1959 to aid in control of Lantana camara. (Yoshioka).

Miscellaneous Pests - Collected and destroyed 104 specimens of GIANT AFRICAN SNAIL (Achatina fulica) during January at Poipu, Kauai. During same period 3 large snails picked up at Wahiawa, where in December single snail collected following 6 months of negative activity. Poison bait applications continue at both areas. (Sugawa, Yoshioka). Larvae of a GEOMETRID MOTH (Semiothisa santaremaria) light in areas of lush koa-haole growth throughout Kauai. Specimens of apparently diseased larvae submitted, found infected viral disease. Possible factor in noticeable decline in larval population on this island. (Sugawa).

DETECTION

New State Record - HOLLYHOCK WEEVIL (Apion longirostre) - OKLAHOMA - Mayes County. (p. 60).

Weather of the week continuted from page 58.

clocked gusts up to 75 m.p.h. Deep snow drifts blocked highways and byways and stranded hundreds of motorists. The wet snow froze to wires and trees. Many localities were without power or communication. Helicopters were used to reach some isolated communities to carry in food and fuel and evacuate some persons who needed hospitalization. By late Sunday, the skies were mostly clear over much of the Northeast but brisk northerly winds continued. Rainfall exceeded 4 inches along part of the Washington Coast, 1 inch along much of the Atlantic Coast, and .5 inch near the Great Lakes and in the Appalachians. Most of the western two-thirds of the Nation received less than .25 inch and a large area from California to Nebraska and southward to the Mexican border received no rain or only widely scattered sprinkles or snow flurries.

TEMPERATURE: Southerly breezes warmed mid-America early in the week. St. Louis, Missouri, registered 72 degrees Monday, February 14. This was warmer than most Florida stations and only 1 degree cooler than Phoenix, Arizona. A surge of cold air plunged into the north-central border States early Tuesday dropping temperature at Bemidji, Minnesota, to 15 degrees below zero. Temperatures rose gradually and by midweek were near normal over most of the Nation. By Thursday afternoon, only the Dakotas and higher elevations in the Northeast remained below freezing. Temperatures exceeded 80 degrees along the lower Colorado River. Over the southern Rio Grande Valley, and in southern Florida. In mid-America Thursday, maximums ranged from the 40's in Nebraska to the 60's in Oklahoma. An intense storm moved northward along the Atlantic coast over the weekend. Northerly winds on the western side of the storm brought subfreezing weather to the Deep South. New Orleans, Louisiana, registered 31 degrees Sunday morning, southerly winds warmed the Great Plains. The mercury at Burwell, Nebraska, climbed to 74 degrees Sunday afternoon. Most of the area east of the Mississippi River and south of the Ohio River averaged cooler than normal. Most other areas averaged warmer than normal. Much of the West averaged 6 degrees to 12 degrees warmer than normal.

NATIONAL WEATHER SERVICE'S 30-DAY OUTLOOK MID-FEBRUARY TO MID-MARCH 1972

The National Weather Service's 30-day outlook for mid-February to mid-March is for temperatures to average below seasonal normals over the eastern half of the Nation. Above normal temperatures are indicated west of the Divide and in western portions of the northern and central Plains. In unspecified areas near normal temperatures are in prospect.

Precipitation is expected to exceed normal along the gulf and south Atlantic coasts, as well as over the northern Plains and the north Pacific coast. Subnormal totals are indicated for central and southern portions of the Pacific coast and the intermountain region as well as portions of the central and southern Plains. Elsewhere near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the National Weather Service. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

SUMMARY OF INSECT CONDITIONS IN THE UNITED STATES - 1971

INTRODUCTION

The summary of insect conditions, beginning in this issue, will be continued in several succeeding issues of the Cooperative Economic Insect Report. This summary was compiled by the Economic Insect Survey and Detection Staff from annual summaries submitted by various State and Federal cooperators. A list of the individuals who assisted in assembling data will appear after the last section of this summary is published. The Economic Insect Survey and Detection Staff appreciates the assistance of all individuals who have participated in the preparation of material for the 1971 summary.

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

BROWNTAIL MOTH [illegible] *aeorrhoea*) larvae were observed feeding on islands in the Casco Bay area east of Portland, MAINE. Sampling for winter webs in early spring 1971 showed the distribution east along the coast to Brunswick and on the peninsulas to the south and east. Larvae were not reported east of Brunswick.

CEREAL LEAF BEETLE (*Oulema melanopus*) adults were detected for the first time in 15 VIRGINIA counties. Followup surveys in two previously infested counties detected no economic damage but the potential damage to oats and other small grain remains high. The first observation of larval infestation on oats in PENNSYLVANIA was on May 28. Larval counts were 50 per 100 sweeps in the eastern counties. Some controls had been applied by May 28. A heavy infestation of third instar larvae was observed June 10 on oats in Beaver and Lawrence Counties. A few isolated fields in Venango and Armstrong Counties showed "white frosting" of the upper foliage of oats, and light infestations were reported in virtually all fields in Indiana and Centre Counties. Some fields in 4 western counties were treated by June 23. About 19,000 *Anaphes flavipes* (a mymarid wasp), were released on June 3 for containment of this insect at all sites in 8 counties.

Cereal leaf beetle egg laying in INDIANA had peaked by June 11 and larvae were mostly third and fourth instars. Larvae had disappeared by June 27. The annual survey indicated that larvae averaged 11.1 per 100 stems statewide, a decrease from 20.5 in 1970. Continues to expand its range in ILLINOIS. Currently found in 57 counties, 27 were reported in 1971. Damage to small grains and corn are expected to be minor in Illinois in 1972. Intensive surveys in WISCONSIN revealed larvae in Walworth County for the first recovery in the State. No other infestations were found. Cereal leaf beetle damage was affected by dry weather in MICHIGAN. Oats were generally planted early because the soil was dry, and the plants were up shortly after the adults emerged in the spring. The adults bypassed the winter grains and almost all of the damage was to oats during 1971. Spraying to protect oats from this pest was general and widespread. There were 5,271 acres inspected at 325 locations in eastern MISSOURI; all surveys were negative.

EUROPEAN CHAFER (*Amphimallon majalis*) the first emergence in PENNSYLVANIA was observed by blacklight trap collections in Lackawanna County and Luzerne County June 20. Heavy flights were observed in Erie, Lackawanna, and Lehigh Counties June 21. Adult flights passed their seasonal peak and began to taper off in all areas of the State by July 13. The first observable damage was reported July 13 in Scranton, Lackawanna County.

Adult emergence of EUROPEAN CRANE FLY (*Tipula paludosa*) in WASHINGTON was light this year as compared to emergence in 1970. The first adult was recorded from Whatcom County on August 23. Adults were collected from San Juan County for the first time this year. The infestation in Whatcom County has spread on basis of larval survey about 4 miles south of the finds of 1970.

Rangeland and cropland in WASHINGTON was heavily damaged by GRASSHOPPERS; the dominant species were *Melanoplus sanguinipes*, *M. packardii*, *Oedaleonotus enigma*, *M. femurrubrum*, *Aulocara elliotti*, *Amphitornus coloradus*, *Camnula pellucida*. A cold wet spring followed by hot dry weather provided ideal conditions for grasshopper populations buildups in eastern OREGON rangeland and cropland. A total of 1,140,000 acres of private, State and Federal lands was infested with economic populations. Dominant species were *Melanoplus sanguinipes*, *M. bivittatus* and *Oedaleonotus enigma*. Heavy populations of *Aulocara elliotti* and *M. packardii* were evident in some dry rangeland areas; *Camnula pellucida* was very heavy in meadow environs and *M. bivittatus* in cropland areas. About 700,000 acres of rangeland were treated in IDAHO and the dominant grasshopper species was *Melanoplus sanguinipes*. Fall surveys indicate that about 1,700,000 potential acres of the 2.5 million infested acres will probably require treatment in 1972.

Grasshopper populations have been heavy in MONTANA the past 2 years. Economic infestations were found on about 142,000 acres of rangeland in 1971. Heavily damaged rangeland was more evident than the previous 5 years, with some damage to cropland. Grasshoppers hatched by May 7 in the lighter soil areas of NORTH DAKOTA; this was 2-3 weeks earlier than in 1970. By mid-June, crop damage was evident on soybeans and sunflowers, with populations up to 40 per square yard. Damage increased in July with 90 percent of the leaves stripped on barley and wheat. Controls were started early and continued into late August. The adult survey during August in North Dakota showed an increase in economic infestations in parts of Morton, Cass, Ransom, and Richland Counties. *Melanoplus bivittatus*, *M. sanguinipes*, and *M. femurrubrum* were the dominant species. Infestations are expected to increase again during 1972.

Egg hatch of *Melanoplus sanguinipes* and *M. packardii* started in early May. The predominant species in MINNESOTA, *M. femurrubrum*, began to hatch the second week in June. Damage to forage crops, primarily alfalfa, was quite spotty and rated moderate. Populations in 1971 decreased; an estimated 252,000 acres of forage crops had economic populations. Moderate to very abundant infestations lie in small areas of east-central, central, west-central, and south-central Minnesota. Infestations in 1972 are expected to be dispersed throughout these areas. Alfalfa and other forage crops will have widely scattered problems in some fields. Weather conditions could modify this outlook. Grasshopper infestations were heavy and scattered in NEBRASKA. An estimated 740,000 acres of cropland were infested. Dominant species in crop areas were *Melanoplus differentialis*, *M. bivittatus*, and *M. femurrubrum*. Rangeland populations were lower on an area basis, infestations being confined to small pockets. An estimated 50,000 acres of rangeland had economic populations. Dominant species infesting rangeland were *Ageneotettix deorum*, *Aulocara elliotti*, *Trachyrhachys kiowa*, and *Phlibostroma quadrimaculatum*. Due to an extended period of favorable temperatures, grasshopper activity and egg laying continued well into the last week in October. Heavy infestations are possible in 1972.

Survey in COLORADO shows about 900,000 acres of private, State, and Forest Service rangeland in the southeastern area infested. Damage in 1971 was light, but expect a buildup in 1972. Survey was conducted in 15 northwest MISSOURI counties late in the adult season. Only moderate numbers were present in 2 counties (Clinton and De Kalb). Light populations occurred elsewhere. Three species predominated in the northwest area: *Melanoplus sanguinipes*, *M. differentialis*, *M. femurrubrum*. Grasshopper egg hatch began in south-central and southwest OKLAHOMA in mid-April and continued through May. Rangeland, crops, lawns, and home gardens were damaged. During July, 73,355 acres of rangeland were treated in cooperative control programs in Carter, Jefferson, Love, and Ellis Counties. Fall surveys showed 1,900,000 acres of rangeland in 32 counties to be economically infested. Dominant species were *Phlibostroma quadrimaculatum*, *Ageneotettix deorum*, and *Drepanopterna femoratum*. Grasshoppers killed by the fungus, *Empusa grylli*, were noted in Payne County in September. Several thousand acres infested with *Melanoplus aridus* south of Flagstaff, ARIZONA, were threatened. Growers treated 1,250 acres. Young pine seedlings threatened by *M. franciscanus* at Sitgrowers National Forest near Pagson were saved when rains produced new growth to preferred host plants. Over 59,000 acres of rangeland were reported economically infested in Arizona.

GRASS BUGS were damaging to grasses in several western States. Damage was reported in WASHINGTON on wheat and crested wheatgrass by *Irbisia pacifica*, *I. fuscipubescens*, *I. shulli*, and *Labops hesperius*. Late infestations on small grain by *L. hesperius* caused light damage in MONTANA. Thousands of acres of rangeland in Powder River County were infested with counts of 20 per sweep. Damage was heavy on crested wheatgrass and other grasses in UTAH by *Labops* spp. and *Irbisia* spp. Several thousand acres were involved in Kane and Garfield Counties. About 4,000 acres of rangeland were sprayed in Kane County and smaller acreages were treated elsewhere in Utah. Populations of *I. pacifica* were damaging on 10,000 acres of crested wheatgrass in Elko and Eureka Counties, NEVADA, during June and July.

GYPSY MOTH (*Porthetria dispar*) surveys were conducted in 33 States. In the eastern region egg mass surveys in the fall of 1970 revealed no egg masses in VIRGINIA, MARYLAND, and DELAWARE. Trapping in 1971 showed infestations in several cities and counties in these States. Male moths were trapped in several States with no previous history of moth collections. These were ALABAMA, NORTH CAROLINA, SOUTH CAROLINA, and WISCONSIN. An ENCYRTID WASP (*Ooencyrtus kuwanai*) a larval parasite of gypsy moth, was released at or near the trap catches as a precautionary measure. There was no biological evidence of established infestations in these areas. Moths were trapped in 2 counties in OHIO; however, specimens had not been collected in this State since 1914. Surveys showed a spread of gypsy moth in several counties in PENNSYLVANIA and NEW YORK during 1971. Defoliation, to some degree, was observed on 2 million acres of forest throughout the northeastern United States. Egg mass surveys during the fall of 1971 indicated heavy populations can be expected in several northeastern areas for 1972.

IMPORTED FIRE ANT (Solenopsis saevissima richteri) spread to several new counties in SOUTH CAROLINA, GEORGIA, FLORIDA, ARKANSAS, and TEXAS. Surveys indicated slight spread in other infested States. Over 8 million acres were surveyed and 1.2 million acres were found to be infested. Controls were applied to about 6.5 million acres in 6 southern States.

JAPANESE BEETLE (Popillia japonica) adults were reported July 6 in Providence and Washington Counties. Heavy adult populations continued through August throughout RHODE ISLAND. The adult population during the first two weeks of July was at the highest level in over a decade in PENNSYLVANIA. The problem appeared to be statewide with moderate to heavy damage to roses, grapes, peaches, sweet cherries, lilacs, and other plants. Populations were spotty during July and August on Concord grapes. In Franklin County, a first year planting of wine grapes sustained 50-60 percent leaf injury by October 12.

Japanese beetle populations and damage were above 1970's levels in MARYLAND. A few moderate to heavy infestations were found in Frederick, Montgomery, Harford, Baltimore, Carroll, Howard, Prince Georges, and Anne Arundel Counties. Mid-summer adult populations were the heaviest within the past several years. Infestations in VIRGINIA were generally less severe than in 1970, but in a few areas corn was heavily damaged. Heavy damage for the fourth consecutive year was noted in Prince Edward County. Corn silk damage was 10 percent or less in most counties. Generally Japanese beetle activity was lower in SOUTH CAROLINA than in 1970. Survey was conducted in 20 counties in MISSOURI with 1,935 traps set. Adults were discovered only in the St. Louis metroplitan area. Populations remain very light and scattered.

MORMON CRICKET (Anabrus simplex) populations averaged 4 per square yard on 400 acres of rangeland in northern Wallowa County, OREGON. Also commonly found in the Flora and Troy areas but no significant damage was seen. Observed in considerable numbers on 200 acres of private land in Gilliam County. After many years of finding only solitary crickets in UTAH, a definite infestation was found north of Tintic, Juab County. About 2,000 acres were infested. Plans were made for control in the spring of 1972.

Blacklight trap collections of PINK BOLLWORM (Pectinophora gossypiella) moths in TEXAS were heavy in McLennan and Falls Counties by August 12. Moth collections in this area remained heavy and by September 9, recovered 13,000 moths in one week. Larvae averaged 2.2 per boll in north-central area, and 73 percent of the samples taken were infested in Collin County. Populations were heavy in scattered sites in this area. Boll infestations ranged 15-35 percent in Pecos County, but averaged less than 4 percent in nearby counties. In this area by October 1 boll infestations averaged less than 10 percent of the fields examined. Some infestations in west Texas had as high as 95 percent of the bolls infested. Green boll infestations increased over 1970 in south-central OKLAHOMA; ranged 23-54 percent in many counties. Generally, infestations were not heavy in other areas of Oklahoma. Surveys in CALIFORNIA were intensive for pink bollworm. Moths were recovered from hexalure traps in Tulare and Fresno Counties. These are new distribution records. During the trapping year 8 nonsterile moths were trapped in the San Joaquin Valley. Larval surveys were negative in this area. Sterile moths released in this area totalled 108 million. First-generation larvae in ARIZONA were found in Graham, Maricopa, Pinal, and Yuma Counties in mid-June. Many growers were on a 6-day spray schedule beginning mid-May. Infestations ranged 70-100 percent on Pima cotton in Graham County. Some growers who stopped sprays and gambled on increased top yield lost. Those growers who maintained a spray schedule had infestations of 4 percent.

RANGE CATERPILLAR (*Hemileuca oliviae*) infestations in NEW MEXICO were heavy. Range grasses were damaged in Union, Colfax, and Harding Counties. Number of acres and degree of infestation was decreased by spray programs carried out by ranchers in 1970. Many eggs failed to hatch, possibly due to drought. Eggs did not appear to be parasitized. Approximately 300,000 acres were generally infested in Lincoln County. Many of the larvae starved when drought conditions caused grass to dry.

SOYBEAN CYST NEMATODE (*Heterodera glycines*) cysts were recovered from 8 counties in 8 States. These were ILLINOIS, VIRGINIA, NORTH CAROLINA, TENNESSEE, SOUTH CAROLINA, FLORIDA, LOUISIANA, and MISSISSIPPI. Reported for a new State record from South Carolina. Surveys were conducted on 42,357 acres during 1971. Some stunting of soybeans was noted late June in west Tennessee; however, the moisture supply was enough to reduce most damage. Two new properties were found infested in MISSOURI, and surveys were negative in ALABAMA.

Small infestations of WEST INDIAN SUGARCANE ROOT BORER (*Diaprepes abbreviatus*) were reported on citrus between Apopka and Plymouth, Orange County, FLORIDA. The regulated area has increased but the total population of *Diaprepes* has not changed much from 1970. *Tetrastichus haitiensis* (a eulophid wasp), an egg parasite, has not become established in this area, although one or two have been recovered.

WHITEFRINGED BEETLES (*Graphognathus* spp.) damaged soybeans in west TENNESSEE. Losses in ALABAMA were estimated at $1,127,000 to cotton, corn, soybeans, peanuts, and vegetables. Additional $277,300 was spent by growers for control. New county distribution records were established in these States: ARKANSAS, LOUISIANA, MISSISSIPPI, GEORGIA, SOUTH CAROLINA, and NORTH CAROLINA.

STATE SURVEY COORDINATORS

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